[O18] Students' responses to academic feedback provided via mp3 audio files

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Introduction

Providing feedback to students is time consuming for academics (Carless *et al*., 2006). However, despite the time invested in it, the feedback academics provide may not be effectively used effectively by all students (Higgins *et al*., 2002) and a possible reason for this is that students need to develop their ability to use feedback (Sadler, 1989).

These concerns have lead to the development of electronic means of delivering student feedback more quickly and of enhancing the quality of that feedback (Pitt and Gunn, 2004). A further attraction of the use of electronic forms of feedback is that, compared to handwritten comments, it is more easily archived, copied and distributed for quality assurance purposes.

Research evidence (Shriver, 1991; Shriver, 1992) has shown that hearing 'think-aloud reading' can help writers to develop a greater appreciation of the needs of readers of their work, and that this appreciation can lead to improvements in writing performance. Advances in technology mean that it is now possible for tutors to easily record and distribute spoken feedback to students via e-mail as mp3 audio files. This type of feedback is analogous to the 'think aloud reading' investigated by Shriver.

This study aims to consider the effectiveness and feasibility of providing feedback on academic work to students using mp3 audio files. Effectiveness will be considered in terms of how this type of feedback is perceived by students and how students utilise this type of feedback when they receive it.

The work follows on from that of Orsmond *et al*. (2005) who have previously identified that students may use feedback in four distinct ways. These are to enhance their motivation, to enhance learning, to enhance reflection and for clarification. This study considers students' perception of mp3 feedback (i.e. concerning clarification) and students' implementation of mp3 feedback (i.e. concerning learning, motivation and reflection).

As feedback is integral to all learning this project has wide applicability across the disciplines.

Method

The study involved 15 student volunteers from Biological Sciences at Staffordshire University and 2 tutors (the authors of this paper). The students were studying human biology awards and comprised 9 Level 2 undergraduates and 6 Level 3 undergraduates. Eleven of the students were full time and 4 were part time. Ethical approval to conduct the study was gained from the Faculty Research Ethics Committee.

Students submitted samples of their work for formative feedback to the tutors either as hard copy or as e-mail attachments. No restrictions were placed on the type of work that could be submitted. Work received included essays, parts of dissertations and written reflections.

After reading the students work, the tutors recorded the feedback on a desktop PC using Audacity (Audacity, 2007). The recorded files were then converted to mp3 format using Switch (NCH Swift Sound, 2007). Both of these packages are available as freeware. The mp3 files were then sent to the students as e-mail attachments.

Semi-structured interviews of the 15 student participants took place within 3 weeks of receipt of the feedback. The interview schedule comprised items concerned with, firstly, students' perception of the feedback they had received (e.g. what they thought of the overall quality of the feedback and what they thought the tutor was attempting to say in the feedback) and, secondly, students' utilisation of the feedback (e.g. did the feedback help give more meaning to the assignment and was the feedback helpful to their learning). The interviews took place in the presence of the two tutors and were deliberately informal and confidential. The tutors made contemporaneous notes and all 15 students consented to having the interviews audio recorded for transcription.

The qualitative analysis of the interview data involved clustering units of relevant meaning and identifying general and unique themes (Cohen and Manion, 1994).

Results

Overall, the students responded very positively to this type of feedback. All students said they would like to receive more feedback in this format. They all judged the feedback to be of good quality, but for a number of different reasons. Amongst those reasons were a) that it was easier to understand because handwriting is often illegible, b) that it had more depth because possible strategies for solving problems were included rather than just stating what the problems were and c) that it seemed 'more genuine' indicating that speech is received in a more personal way than writing.

- *'I mean feedback's good anyway, but if it's more helpful then it's better all round'*
- *'Audio can convey more complex thoughts than written'*
- *'It seemed more conversational'*
- '*The spoken word meant more than words on a piece of paper'*

Thirteen of the 15 students listened to the feedback more than once with some doing so while they were doing other things such as walking to work. They also appreciated the ability to pause, rewind and play sections again

- *'Found myself listening to it three or four times'*
- *'Could pause and think with the audio'*

All students listened to the feedback with a copy of their submitted work in front of them at least once and 12 of the 15 students made notes on the written work as they listened to the feedback. They seemed to be able to understand the feedback to a greater extent compared to written comments.

- *'Tone of voice conveyed information as to whether the changes [needed] were minor or major'*

- *'Circles and question marks written are difficult to interpret'*

Many students also stated that they would use the audio feedback they had received to improve their work for other tutors.

- *'It seems like written feedback just goes with one essay, but the audio feedback could go with other essays as well'*

The tutors were also positive about the use of this form of feedback. They were aware that they were able to provide more detailed feedback using examples of how the work might be changed within the same timescale as would be involved in providing written feedback. While in this study tutors found that providing audio feedback did not save them time, it might do so with more practice.

Pitfalls identified during the course of the work concerned the large size of the mp3 files generated (up to 11Mb) making them incompatible with some e-mail systems. In this study mp3 files could not be e-mailed to 2 of the 15 students. In these cases they were provided on disk.

Discussion

This preliminary study indicates that students perceive and implement mp3 audio feedback in different and more meaningful ways than written feedback. Findings that a large majority (13/15) of students listened to the audio feedback more than once and that they (12/15) made notes on the original work as they listened to the feedback do demonstrate that they did consider the feedback in some depth. Not only did students take the feedback seriously, they seemed to appreciate the feedback more in the sense that all 15 students found it to be of good quality and several commented that they that found the feedback more personal or that it showed that the tutor cared about the work. These two aspects of audio feedback (i.e. the quantity of feedback given and the means by which the feedback is delivered) are distinct, yet interrelated.

Both this study and our previous work (Orsmond *et al*., 2005) do indicate that students value tutor feedback. This is particularly interesting in the light of subsequent work (Orsmond *et al*., 2006) which as indicated that students actively seek feedback from a variety of sources. They often enter into dialogue to obtain formative feedback from others both within and without their student cohort prior to approaching tutors and what they are sometimes seeking from tutors is confirmation of the feedback they have already obtained elsewhere. This can bring into question the impact that tutors' formative feedback might have on students learning. It has to compete with other, possibly conflicting, feedback in order to influence students. This may be an important factor behind the conclusion of Higgins *et al*. (2002) that the feedback academics provide may not be effectively used by all students.

It could be that audio feedback is particularly influential to students learning because it meets many of the requirements for effective feedback outlined in Brown *et al*. (2003) including being detailed, prompt and understandable to students. Audio feedback may be more understandable to students because they are more used to information being conveyed as sound than as written words possibly reflecting their increasing use of

multimedia technology in their lifestyles and, perhaps mobile phones in particular. In this context it is also interesting to note that participants gave the ability to pause and replay audio feedback as an advantage. It did not seem to have occurred to the students making these comments that they could also pause and then reread written feedback.

Students also commented that the audio feedback was more detailed than written comments and this theme was also picked up by the tutors who found themselves naturally providing examples in their audio feedback of how the work might be changed. They felt this would not have happened to the same extent in written feedback because of either time or space constraints for marginal comments. Additionally there was an appreciation that subtleties of thought that indicate merely possibilities for change (rather than direct instructions to change) are more able easily conveyed using the spoken word than in writing. Lea and Street (1998) have also commented that brief feedback comments from tutors often have little meaning to students. Finally it is worth noting that 4 of the 15 students interviewed reported that the often did not read written feedback because they found tutors handwriting difficult to read. Audio feedback overcomes this illegibility.

While the findings of this study are very positive concerning the benefits of mp3 audio feedback, it must be acknowledged that this is a pilot study based on a small number of self-selected volunteers who knew in advance that they would be asked to participate in an interview concerning their opinion of the feedback. As such the study group might be considered to be biased; however there was ample opportunity in the interviews for the students to state that the feedback did not meet their expectations if that was indeed the case. All 15 students said that they would like to receive more feedback in mp3 audio format with only a small number (2/15) stating that they would like to receive the feedback in both audio and written format. These factors lead the authors to believe that mp3 audio feedback is an approach that can enhance student learning and which should be pursued in further studies. It is also acknowledged that it could be a ‘novelty factor’ that made students pay particular attention to the audio feedback in this study. This can also only be judged in the light of subsequent studies in which students are given more feedback in this format.

Such future studies might investigate the integration of mp3 audio feedback into virtual learning environments such as Blackboard and its application within summative assessments including its compatibility with institutional quality assurance procedures. To aid such integration into other environments it may be possible to reduce the large size of the audio files by refining the recording process. However the authors have concerns that in doing so the sound quality might be reduced to such an extent that the personal aspect of the feedback as perceived by students might be lost.

These finding are currently being used to develop guidance for tutors regarding approaches to providing the most effective feedback to students in this format. This guidance will be developed following a more detailed comparison of written and mp3 audio feedback comments on the same piece of work and will be summarised in a longer version of this paper to be submitted to Bioscience Education e-Journal.

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A longer version of this paper will be submitted for publication to Bioscience Education e-Journal